Remarks

This is a response to the Office Action dated June 6, 2005 in which the examiner has finally rejected the pending claims as either anticipated by or obvious over USP 5,648,767 (O'Connor et al).

Claims 1, 3-4 and 6-12 remain pending in the application.

The main features of the present invention and the cited reference USP 5,648,767 (O'Conner et al) are listed in the appendix table 1. As listed in table 1, there are distinct differences between the present invention and O'Conner et al. Representative differences are as follows;

[1] The number of detectors
In this invention, 1 per lane
In O'Conner et al. 2 per lane

[2] The type of emission means of radio signal from antenna
In this invention, Continuous
In O'Conner et al. Discontinuous

[3] The range of area covered by radio signal from antenna
In this invention, Need to predetermine the directivity
In O'Conner et al. Does not care about the antenna pattern

[4] The way of signal processing means
In this invention, Monitoring a response from transponder all the time, while continuously emitting radio signal from the antenna
In O'Conner et at. Start to send out a beacon signal through the antenna when the detector called as arming loop detects an incoming vehicle

As easily understood from the table 1, compared with O'Conner et al, claims 1 and 6 of the present invention are different, at least with respect to the features noted in the four items [1] to [4]. These features pointed out by the four items [1] to [4] are believed to have already been described in claims 1 and 6 in a sufficient manner. Therefore it is respectfully submitted that all the claims currently pending in the present application are neither anticipated by O'Conner et al nor unpatentable over O'Conner et al.

In view of the foregoing amended claims and arguments, it is respectfully submitted that the currently pending claims are in condition for allowance. The examiner is therefore respectfully requested to enter the amendment and pass the case to issue at an early date.

Respectfully submitted,

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Table 1. Comparison between the present invention and the citation

	The present invention	*The citation (O'Conner ;US5648767)*
Field	ETC (mainly focused on organic combination of its elements)	ETC (mainly focused on one of the element namely detector)
Objective	Accurate discrimination of non-ETC vehicles from following ETC vehicles	Accurate vehicle detection in general (refer to background of the invention)
Detector [1]	1 / lane (Refer to Claim 1; a single vehicle sensor) (Refer to Claim 6; a single vehicle sensor)	*2 / lane* *(refer to Fig.4; Col. 5, Line35-50)*
Antenna	Equipped (The detection system needs not to utilize the phase difference, then do not requires to include at least two antenna elements.)	Equipped (The detection system utilizes the phase difference, then must include at least two antenna elements.) (Refer to Col. 2, Line22-42; Col.3, Line40-43)
The type of emission means [2]	Continuous (Refer to "first means" in claim 1) (Refer to "transceiver means" in claim 6)	*Discontinuous* *(Refer to Fig.8; Col.8, Line39-47)*
The range of area covered by the emission from antenna [3]	Need to predetermine its directivity (Refer to "an antenna" in claim 1 and claim 6) one vehicle ≦ length < two vehicles (Refer to "an antenna" in claim 3 and claim 12) 6.5m (Refer to "an antenna" in claim 4 and claim 11)	*Need not to care the antenna pattern* *(Refer to Col.10, Line38-47)* *The inventor rather says that the antenna pattern can be arbitrarily large. This is one of superior merits of his invention.*
Radio Signal processing means [4]	(1)Monitoring a response from transponder all the time, while continuously emitting radio signal from the antenna. (Refer to "first means" in claim 1) (Refer to "transceiver means" in claim 6) (2) According to the transponder responses or not, decide that the vehicle is ETC-vehicle or not. (Refer to "second means" in claim 1) (Refer to "third means" in claim 1) (Refer to "fourth means" in claim 1) (Refer to "processor means" in claim 6) (Refer to claim 7) (3) Detect "outgoing" by unique detector ---> To process the next vehicle	*By each lane;* *(1)Detect "incoming" by detector(1) called as an arming loop.* *(Refer to Col.5, Line38-40)* *(2)Send out a beacon signal through the antenna.* *(Refer to Col.8, Line39-44)* *(3)According to the transponder responses or not, decide the vehicle ETC-vehicle or not.* *(Refer to Col.6, Line40-45)* *(4)Detect "outgoing" by detector(2) known as a clearing loop.* *---> To process the next vehicle* *(Refer to Col.5, Line45-50)*

Appendix Table 1